



復旦大學
FUDAN UNIVERSITY

Applied Math Ph.D. Seminar

Uniform-in-Time Estimates on the Size of Chaos for Interacting Particle Systems

Speaker: Pengzhi Xie (Fudan University)

Time: 2025-05-08, 16:10 to 17:00

Location: Rm 1801, Guanghai East Tower

Advisor: Shanjian Tang (Fudan University)

Abstract: For any weakly interacting particle system with bounded kernel, we give uniform-in-time estimates of the L^2 norm of correlation functions, provided that the diffusion coefficient is large enough. When the condition on the kernels is more restrictive, we can remove the dependence of the lower bound for diffusion coefficient on the initial data and estimate the size of chaos in a weaker sense. Based on these estimates, we may study fluctuation around the mean-field limit.